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ABSTRACT

The second part of a working copy in preparation for inclusion into a curriculum manual to aid teachers of preschool children, this paper is devoted to questions, answers and discussions on Experience with Representation: 1. The Symbol Level, and 2. The Sign Level. It is noted that children cannot read or work with concepts they have not yet acquired, and that teaching alphabet, phonetics, and the actual writing of words, is probably not helpful for many at preschool level. It is also thought that preschool teaching might tend to interfere with learning to read or speak. Quiet Area activities are suggested, and that no child be pushed into large groups. The importance of environment is stressed, where speaking, writing and reading language is valued. (For related documents, see PS 006 089-092, and PS 006 094.) (RG)

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LEVELS OF REPRESENTATION

Part II: Experience with Representation: The Symbol Level and The Sign Level

High/Scope Educational Research Foundation
Preschool Department

Ypsilanti • Michigan

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THIS IS A WORKING COPY. It is being revised for inclusion in a curriculum manual we hope to publish in 1972.

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Experiences with Representations:

I. The Symbol Level

A symbol is something that stands for something else and resembles it in some way. The symbol is neither the same as nor a part of the object or relation it represents, nor does it require the presence of the object: it is chosen as a representation because it is in some way like the object, event or relation it represents.

Which of these are symbols?

1) a jar of paint
2) a doll
3) a drawing of a tree
4) a cup of juice
5) a "garage" built of blocks
6) a map
7) a toy, or model, car
8) a printed story
9) a chair
10) a lump of clay
11) the sound of a telephone ringing
12) footprints in the snow
13) an airplane made from two rulers
14) children "mooing" like a cow
15) children playing store
16) a clay turtle
17) imitating actions in "This is the way we wash our clothes"
18) using a bench as a bridge
19) guessing who is talking, without seeing that person
20) the smell of coffee makes us think of coffee
21) a picture puzzle of the mailman
22) photographs cut from a magazine
23) the word "table" stands for a table

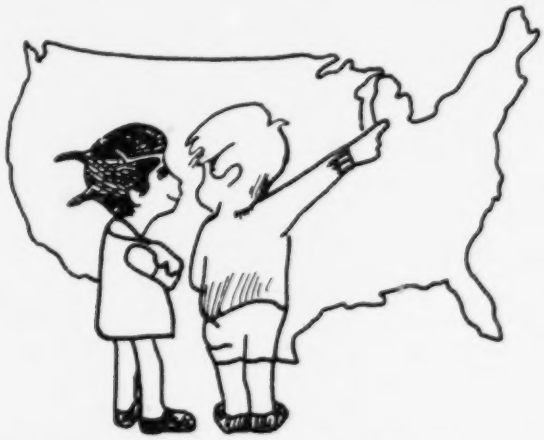
Answers and Discussion

1) A jar of paint. . .No. A jar of paint does not usually represent something else; it is not usually a symbol. It can, of course, be used to make paintings, which would be symbols. Or to a child it might represent a tower or a jar of apple sauce and then it would be a symbol, for him.

2) A doll. . .Yes. A doll is made to resemble a person. It is a symbol since it is not a real person but does represent one.

4) A cup of juice. . .No.

5) A "garage" built. . .Yes. The spontaneous use of materials and toys to stand for real things is of course a very important part of children's play. Such play is an important way of learning to cope with experience mentally.



6) A map. . .Yes. A map does look like the area it represents in some ways. It is a symbolic form of representation.

7) A toy, a model. . .Yes. This is an example of a three-dimensional model; it looks like a real car.

8) A printed story. . .No. Written words do not look like or otherwise resemble what they represent. Written material is representation at the sign level.

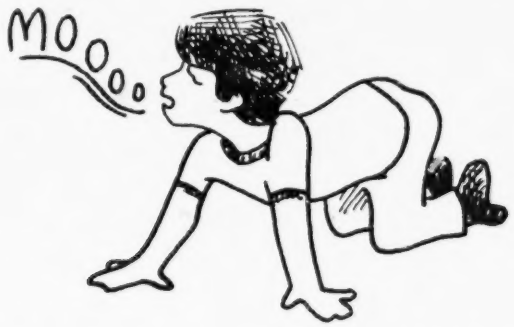
9) A chair. . .No. This is a real object for most purposes. Of course a child can transform a chair into a bridge, a house, or a car. Then, to the child, it becomes a symbol.

10) A lump of clay. . .No. A lump of clay is not, in itself, a symbol.

11) The sound of. . .No. The sound of a telephone ringing is made by the real telephone - it is an index of the telephone, not a symbol of it.

12) Footprints in. . .No. A footprint is made by the real object or part of it. It is an index.

13) An airplane. . .Yes. A "pretend" airplane looks like the real thing in some ways, but it is hardly part of or the same as a real airplane. It is a symbol.



14) Children "mooing". . .Yes. "Mooing" is an example of onomatopoeia, human speech imitating real sounds. A child's moo resembles, but is not the same as, a cow's. It is a symbol.

15) Children playing store. . .Yes. "Pretending" is an excellent example of symbolic activity.

16) A clay turtle. . .Yes. A clay turtle symbolizes a real turtle.

17) Imitating actions. . .Yes. Imitation of actions means to use one's body to represent the movement of another person or thing. This is a symbol level activity.

18) Using a bench. . .Yes. The bench is a symbol if it is used to "stand for" a bridge.

19) Guessing who. . .No. This is an index level activity.

20) The smell of coffee. . .No. This again is at the index level.

21) A picture puzzle. . .Yes. The picture looks like the mailman but isn't the real mailman.

22) Photographs cut. . .Yes. The photos look like, but are separate from, what they depict.

23) The word "table". . .No. Words are signs, not symbols. (See the section on the Sign Level.)

As you have seen, symbols include models (toys, clay or block constructions, etc.), photographs, pictures, and diagrams; symbolic play is imitative action or pretending

As you have seen, symbols include models (toys, clay or block constructions, etc.), photographs, pictures, and diagrams; symbolic play is imitative action or pretending that an object or person is something other than what it, he or she is. Role playing, make-believe, fantasy play, imitation are all ways of representing, or symbolizing, experience.

Questions and Answers About the Symbol Level

Q. Since most children can use at least some symbols, why not start right out at the symbol level?

A. Because children must be taught to "read" symbols, even though the symbol does resemble the thing it represents. We all realize that this is true for symbols like maps or blue prints, but we have a harder time seeing that a picture, a model, or an imitative action may be just as hard for the child to relate to real objects and actions. Some of the difficulties that a child may have in using or learning from a symbol are:

1) He may not understand that the symbol is a symbol - for example, that a picture stands for, but is not the same as, the thing it depicts.

2) He may not have enough cues to tell what the picture is. A picture, because it does not preserve color, size, length, width and depth, or preserves only some of these attributes, may simply not look enough like the real object to remind the child of it. This is also true for "abstract" toys like unpainted wooden cars and trucks.

3) The child may not be familiar enough with the real object or action to make the symbol meaningful, or, lacking familiarity with the real object, he may get a distorted impression from the symbol. For example, a city child may think that cows are the size of cats and that all pigs are pink.

Q. Isn't it easier to recognize pictures or models than to identify an object by an "index?"

A. Often this is true, if by "recognize" you mean the ability to give a verbal label for the symbol; however, the ability to name a picture or other symbol is not much of an indication of the degree of understanding the child has about

the relation between symbol and object. A child can "recognize" a giraffe or an igloo in a book without having any but the vaguest idea of what these are really like. Full exploration at the object and index levels will make the symbol more meaningful to the child.

Q. Are most symbol level activities just drawing pictures?

A. No. Our curriculum stresses "reading" pictures more than drawing them. Drawing and making models come after the child has had extensive experience with photographs and realistic pictures of familiar objects. Finding pictures of familiar things in magazines or pasting pictures together precede drawing. We want children to experiment with art materials and to contruct representations, but not to feel that we expect them to produce realistic representations. And don't forget that using models, imitating and pretending are also important symbol level activities.

Q. Is coloring in coloring books or mimeographed sheets a good symbol level activity?

A. No, since it teaches little about the relation between the symbol and the object, especially if "neatness" is the primary goal.

Q. Now what again is the difference between an index and a symbol?

A. A symbol resembles the real object but is different, or separate, from it. For an index to be produced, the real object must be, or must have been, present. A symbol, however, does not require the presence of the object it represents to have meaning.

Q. Are children "at" one level of representation or another?

A. No. Some young children will have considerable difficulty dealing with pictures and other symbols and signs, but most children can function at each of the levels in some kinds of activities. However, the fact that a child can function in some way at each of the levels does not eliminate the usefulness of thinking about levels when sequencing the introduction of new concepts.

Q. Can one ever begin with symbolic material or represented experience?

A. Levels will inevitably be "mixed up" to some extent, but the best way to insure that one is not working at too abstract a level is to start with the real experience or object and closely observe the children as you present increasingly abstract materials.

Q. How much time do you spend at each level?

A. This depends on the age, abilities and experience of the children, as well as on the particular activities. Some three-year-olds may need mostly object level experiences for the entire preschool year. Some five-year-olds will be able to assimilate symbolically-presented materials rapidly, and though the object level and index level should not be skipped, they may be paralleled very soon by symbol level activities.

Q. When is an object "real" and when is it symbolic?

A. An object is real or not depending on the child's perception of it and his intention in using it. Let's take for an example a toy truck. If a child is exploring the properties of the truck but not using it as if it were a "truck" (a symbol), then he is using it as a real object. Depending on how realistic the toy is (and whether you can take it apart), the child may be gaining knowledge about such fundamental things as what roundness is and what wheels are, how they work, how a wheel revolves on an axle, how you can set an object on wheels to make it go. Encouraging the child to explore a toy in this way can be an important contribution by the teacher, since a "real" truck probably could not be explored in such detail.

Experiences with Representations:

II. The Sign Level

Sign level representations, unlike symbols as we use the term, do not resemble what they represent. Their meanings are arbitrarily determined by agreed upon usage. Words are signs. The word "dog", whether written or spoken, does not resemble a dog in any way; to someone who is not a part of the English-speaking community, the word "dog" is nothing more than a meaningless sound. Words, whether they stand for things ("chair," "elephant"), relations ("between," "and," "smaller than"), actions ("walking", or "throwing") or abstract notions ("liberty" or "multiplication") derive their meanings from common usage, not usually from any similarity to what they represent. There are other kinds of signs besides written and spoken words. Examples are punctuation marks, arabic numerals, mathematical signs, (such as +, -, =, ¯), music notation, and traffic lights.

Although spoken words are signs, we don't mean to imply that teacher and children do not talk about an experience until the index and symbol levels have been explored. (See Language and Teaching in the Cognitive Curriculum for a discussion of spoken language.) There are, however, some very good reasons for delaying the teaching of written signs to young children until they have grasped a full understanding of prior levels of representation (object, index, and symbol).

Where written signs represent concepts which children do not yet fully grasp, the teaching of the signs themselves does not teach the underlying concept and is of little value to the preschool child. Piaget and others have shown that children in the preschool years do not yet understand the concepts of number or measurement well enough to represent them or profit from their representation at the sign level. Therefore, it is of dubious value to try to teach most three- or four-year-olds how to solve addition problems or tell time by the clock. Writing numerals or counting, if these do not represent number concepts the child already grasps, are also not very related to mathematical understanding. Learning to read is bound to be difficult because of the abstractness of the representations involved. Words don't look like the things they stand for. Letters don't look like the sounds they stand for. Before trying to teach children to read these signs we should demonstrate the fact that written language does represent spoken language.

Most of us reading this paper experienced schooling in which the written sign was the key to learning. Learning and academic success were equated with one's ability to use a variety of written signs. If we weren't manipulating various kinds of signs in workbooks, memorizing spelling or vo-

cabulary lists, or trying to solve arithmetic problems by juggling abstracted signs, we were watching the teacher write words (sign level materials) on the blackboard. Often underlying the rationale for this kind of teaching approach was the assumption that representing concepts was the same as or led to the understanding of them. We can see the fallacy of expecting children to read and work with signs that stand for concepts they have not yet acquired. Many of the children who were taught under the traditional systems of placing the cart (written signs) before the horse (active experience) are now those adults who have a dislike for books and mathematics. They like symbolic presentations (movies, T.V., pictures) but avoid sign level ones.

The preschool class should stress activities which encourage children to use spoken language as a form of self expression. Eventually the child is led to understand that written language is a means of recording his thoughts for future use. Before a child is expected to want to learn the "code" which transforms spoken language to written language and then back again to a spoken form, he should know why we read and write. R. Van Allen's Language Experience Approach, which we recommend, suggests that the teacher can demonstrate what reading and writing are all about by writing down for the child his exact words as he watches. The teacher "takes dictation," writing out the child's description of one of his pictures, a story he has made up, a poem, or an account of something he has experienced. The children learn that writing records their thoughts for a later time. A library of their "writings" is kept in the classroom; the teacher reads these back to the children when they want to hear them. Not only do the children learn about the purpose of written language, they also learn that what they have to say is important and worthy of being saved for future enjoyment and use. Writing can also be used to represent the children's names and to label familiar things. A small sight vocabulary may be acquired in these initial stages of the Language Experience Approach, but the most important objective is to generate excitement for speaking, reading, and writing and to develop the understanding that all are aspects of the same thing - language.

R. Van Allen's Language Experience Approach provides us with a description of what a child must come to understand about the connection between speaking and writing:

"I can talk about what I think about.

What I can talk about I can communicate in some other way.

Anything I dictate or write can be recalled through speaking or reading.

I can learn to read some of what I dictate and some of what other people have written.

As I talk and dictate stories, I use some words over and over, and some words not so often.

As I observe the writing of my speech, I see the same letters used over and over.

Each letter of the alphabet stands for one or more sounds that I make when I talk.

Most of the words I speak and dictate other people use when they speak and write things for me to read."

These are understandings the Cognitive Curriculum for preschool and early elementary school seeks to teach.

It is important to note that teaching the specific written signs in English (such as the alphabet, phonics, and actual writing of words) is probably not helpful for many children at the preschool level. Preoccupation with the sign level in this manner may tend to interfere with the important preludes to learning to read - active exploration of the world, natural learning of concepts and the use and enjoyment of spoken language.

In preschool the individual children who are eager to explore the mechanics of written words should be provided with classroom and home opportunities for doing so. Such Quiet Area activities as copying words, matching up letter cut-outs or tiles to spell words, feeling Montessori-type sandpaper letters, locating specific letters or words on the printed page are very enjoyable for <u>some</u> preschoolers. But <u>none</u> should be pushed and the activities should not involve large groups. The teacher's main job is to provide a classroom environment in which speaking, writing, and reading language are obviously valued. A book corner should have book covers (not just the spines!) and magazines displayed and within children's reach, with space provided for "books" the children have made. An adult should be available for "taking dictation." These "sign level" activities illustrate the nature of written language, and respond to individual levels of interest and readiness.